

REMARKS

Entry of the foregoing, reexamination and reconsideration of the subject application are respectfully requested in light of the amendments above and the comments which follow.

As correctly noted in the Office Action summary, claims 1-29 were pending. By the present response, claim 1 has been amended, claims 23-29 have been canceled, and claims 30-31 have been added. Thus, upon entry of the present response, claims 1-22, 30 and 31 are pending and await further consideration on the merits.

Support for the foregoing amendments can be found at least at the following locations in the original disclosure: Figures 1-3; Examples 1-3; and the original claims.

The applicant thanks Examiner Curtis for the courtesies extended to applicant's representative during a personal interview conducted on October 14, 2003. During the personal interview, the current amendment to claim 1 was discussed, and in particular, how amended claim 1 distinguishes the present invention from the applied prior art. As indicated in the Examiner's Interview Summary, it was agreed that should the Examiner believe that further amendments to the claims be necessary in order to place the application in condition for allowance, that the Examiner would contact applicant's representative to propose suitable claim amendments.

CLAIM REJECTIONS UNDER 35 U.S.C. §112, SECOND PARAGRAPH

Claims 24, 27 and 28 stand rejected under 35 U.S.C. §112, second paragraph, on the grounds set forth in paragraph 1 of the Official Action. By the present response, claims 23-29 have been canceled, thereby obviating the above-noted grounds for rejection.

CLAIM REJECTIONS UNDER 35 U.S.C. §103(a)

Claims 1-11, 14-19, 21 and 23-29 stand rejected under 35 U.S.C. §103(a) as being obvious over U.S. Patent No. 6,007,901 to Maschwitz et al (hereafter "*Maschwitz et al*") in view of U.S. Patent No. 3,907,727 to Lipp (hereafter "*Lipp*") on the grounds set forth in paragraph 2 of the Official Action. This rejection, as it would be applied to amended claim 1 and newly presented claim 30, is respectfully traversed.

The presently claimed invention is directed to a solar control film which includes an adhesive layer, one or more metallized layers, and a scratch-resistant layer containing dispersed carbon black particles. The solar control film of the presently claimed invention represents a substantial advance in the art in that it can provide a solar control film which effectively reduces visible light and infrared transmission, without distortion and with reduced internal reflection. For instance, depending upon the amount of carbon black used, the solar control film of the present invention can exhibit a visible light transmission from about 10 to about 80%, and a haze which is less than 7%. In addition, the carbon black provides a pleasing gray color and, in contrast to known organic dyes, does not fade over time and does not significantly create haze.

A solar control film constructed according to the principles of the present invention is set forth in amended claim 1. Amended claim 1 recites:

1. *A solar control film comprising:*
 - a) *an adhesive layer for adhering the solar control film to a substrate;*
 - b) *no more than two metallized layers; and*
 - c) *a scratch resistant layer containing dispersed carbon black particles wherein the metallized layer is between the adhesive layer for adhering to a substrate and the scratch resistant layer.*

According to a further aspect, a solar control film constructed according to the present invention is defined by claim 30. Claim 30 recites:

30. *A solar control film comprising:*
 - a) *an adhesive layer for adhering the solar control film to a substrate;*
 - b) *a metallized layer; and*
 - c) *a scratch resistant layer containing dispersed carbon black particles wherein the metallized layer is between the adhesive layer for adhering to a substrate and the scratch resistant layer;*

wherein the solar control film has a visible light transmittance of about 10% to about 80%, a visible light reflection of about 0% to about 8%, and a haze of less than about 7%.

Neither *Maschwitz et al*, taken alone or in combination with *Lipp*, disclose or suggest those features required by the presently claimed invention.

Maschwitz et al is directed to a heat reflecting fenestration product with color corrective and corrosion protective layers. All of the embodiments disclosed by *Maschwitz et al* contain at least an infrared reflecting metal layer, a color correcting metal layer, as well as a protective metal layer. Thus, *Maschwitz et al* teaches a laminate including at least

three metallized layers. As discussed in the present specification, complex multi-layer laminates such as those described by *Maschwitz et al* are expensive and complicated to manufacture, and have an inherently low moisture vapor transmission rate which typically results in excessively long drying times for the pressure sensitive adhesive attachment or insulation systems employed to affix the film to a window. In many cases this can result in fogginess or haze which can disrupt window aesthetics after installation. (See, e.g. - page 3, line 13 through page 4, line 12 of the present specification).

By contrast, claim 1 recites a solar control film having a construction which includes no more than two metallized layers. Thus, the solar control film of claim 1 avoids those disadvantages associated with laminates constructed according to the teachings of *Maschwitz et al*.

Lipp is applied as allegedly teaching preparing acrylate sheets containing dispersed carbon black particles. However, even if the teachings of *Lipp* were combined with the teachings of *Maschwitz et al* in the manner proposed, the claimed invention would not result. Namely, *Lipp* also fails to disclose or suggest the solar control film having the features required by amended claim 1.

The remaining claims rejected on the above-noted basis depend from claim 1. Thus, these claims are also distinguishable over the proposed combination for at least the same reasons noted above.

Newly presented claim 30 represents a combination of the features contained in original claims 1, 16 and 17. Newly presented claim 30 is also distinguishable over the

above-noted combination of *Maschwitz et al* and *Lipp*. For example, newly presented claim 30 is directed to a solar control film having a structure including an adhesive layer, a metallized layer, and a scratch-resistant layer containing dispersed carbon black particles. The solar control film of claim 30 further requires that the solar control film has a visible light transmittance of about 10 to 80%, a visible light reflection of about 0 to 8%, as well as a haze of less than about 7%. The proposed combination of *Maschwitz et al* and *Lipp* fails to disclose, or even suggest, the combination of features contained in newly presented claim 30. For instance, as discussed above, the complicated multi-component laminate structure of *Maschwitz et al* is prone to haze. By contrast, the solar control film of newly presented claim 30 has a haze value which is less than 7%. While it is noted that in paragraph 2 of the Official Action the disclosure of *Lipp* is identified as teaching providing a haze of less than about 7%, this assertion is respectfully traversed.

What *Lipp* teaches in this regard is simply that either a single acrylate sheet impregnated with carbon black, or an impregnated acrylate sheet sandwiched between teflon sheets possesses a relatively low haze. However, nothing contained in *Lipp* suggests that a similar haze value is possessed by the laminate described by *Maschwitz et al*, much less a laminate having those features recited in newly presented claim 30. In other words, the haze value attributed to the single sheet, or entirely different laminate of *Lipp*, is not probative with regard to the haze value of the complicated multi-component laminate structure of *Maschwitz et al*, or for that matter, the laminate constructed according to the requirements of the presently claimed invention.

Thus, for at least the reasons noted above, newly presented claim 30 is also distinguishable over the proposed combination.

Newly presented claim 31 additionally requires that the laminate contain not more than two metallized layers. As discussed above, the teachings of *Maschwitz et al* are entirely inapposite in this regard. Namely, *Maschwitz et al* teaches that in order to obtain the desired visible light transmission and visible light reflection values, a very complicated multi-component laminate is to be utilized which includes at least three metallized layers.

Claims 12 and 13 stand rejected under 35 U.S.C. §103(a) as being obvious over *Maschwitz et al* in view of *Lipp*, as applied to claim 1, and further in view of U.S. Patent No. 4,978,726 to Dohler et al (hereafter "*Dohler et al*") on the grounds set forth in paragraph 3 of the Official Action. This rejection is respectfully traversed.

Dohler et al is cited as allegedly teaching acrylic resin prepared from a mixture of pentaerythritol triacrylate ester and pentaerythritol tetraacrylate ester, etc. However, even if the proposed combination were made, the claimed invention would not result. Namely, *Dohler et al* fails to cure the previously noted deficiencies possessed by the primary combination of *Maschwitz et al* and *Lipp*. Reconsideration and withdrawal of the rejection is respectfully requested.

Claim 20 stands rejected under 35 U.S.C. §103(a) as being obvious over *Maschwitz et al* in view of *Lipp*, as applied to claim 1, and further in view of U.S. Patent No. 6,120,901 to Ojeda et al (hereafter "*Ojeda et al*") on the grounds set forth in paragraph 4 of the Official Action. *Ojeda et al* is cited as allegedly teaching the inclusion of an ultraviolet

absorbing agent in the polymeric film. However, even if the proposed combination were appropriate, the claimed invention would not result. Namely, *Ojeda et al* fails to disclose, or even suggest, those elements of the presently claimed invention which are missing from the primary combination of *Maschwitz et al* and *Lipp*. Reconsideration and withdrawal of the rejection is respectfully requested.

Claim 22 stands rejected under 35 U.S.C. §103(a) as being obvious over *Maschwitz et al* in view of *Lipp*, as applied to claim 1, and further in view of U.S. Patent No. 5,071,206 to Hood et al (hereafter "*Hood et al*") on the grounds set forth in paragraph 5 of the Official Action. This rejection is respectfully traversed.

Hood et al is cited as allegedly teaching a polymeric film located between adjacent metallized layers. However, even if the proposed combination were appropriate, the claimed invention would not result. Namely, *Hood et al* fails to cure the previously noted deficiencies noted in connection with the primary combination of *Maschwitz et al* and *Lipp*. In fact, *Hood et al*, like *Maschwitz et al*, teaches a laminate construction having many metallized and dielectric layers, thus possessing those disadvantages previously noted and discussed in the present specification. Reconsideration and withdrawal of the rejection is respectfully requested.

CONCLUSION

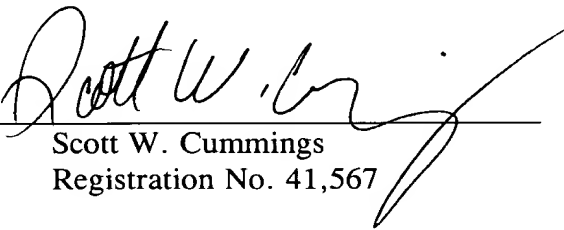
From the foregoing, further and favorable action in the form of a Notice of Allowance is earnestly solicited. Should the Examiner feel that any issues remain, it is requested that the undersigned be contacted so that any such issues may be adequately addressed and prosecution of the instant application expedited.

Respectfully submitted,

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